

CNS GUIDELINES FOR PEDIATRIC MYELOMENINGOCELE

Congress of Neurological Surgeons Systematic Review and Evidence-Based Guidelines for Pediatric Myelomeningocele: Executive Summary 299

Catherine A. Mazzola, Nadege Assassi, Lissa C. Baird, David F. Bauer, Alexandra D. Beier, Jeffrey P. Blount, Susan R. Durham, Ann Marie Flannery, Paul Klimo, Jr, Catherine McClung-Smith, Dimitrios C. Nikas, Patricia Rehring, Mandeep S. Tamber, Rachana Tyagi

CNS GUIDELINES FOR PEDIATRIC MYELOMENINGOCELE (ONLINE ONLY)

Congress of Neurological Surgeons Systematic Review and Evidence-Based Guideline on the Incidence of Shunt-Dependent Hydrocephalus in Infants With Myelomeningocele After Prenatal Versus Postnatal Repair E405

Mandeep S. Tamber, Ann Marie Flannery, Catherine McClung-Smith, Nadege Assassi, David F. Bauer, Alexandra D. Beier, Jeffrey P. Blount, Susan R. Durham, Paul Klimo Jr, Dimitrios C. Nikas, Patricia Rehring, Rachana Tyagi, Catherine A. Mazzola

Congress of Neurological Surgeons Systematic Review and Evidence-Based Guideline on the Management of Patients With Myelomeningocele: Whether Prenatal or Postnatal Closure Affects Future Ambulatory Status E409

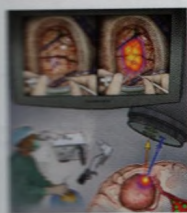
David F. Bauer, Alexandra D. Beier, Dimitrios C. Nikas, Nadege Assassi, Jeffrey Blount, Susan R. Durham, Ann Marie Flannery, Paul Klimo Jr, Catherine McClung-Smith, Patricia Rehring, Mandeep S. Tamber, Rachana Tyagi, Catherine A. Mazzola

Congress of Neurological Surgeons Systematic Review and Evidence-Based Guideline on Closure of Myelomeningocele Within 48 Hours to Decrease Infection Risk E412

Alexandra D. Beier, Dimitrios C. Nikas, Nadege Assassi, David F. Bauer, Jeffrey P. Blount, Susan R. Durham, Ann Marie Flannery, Paul Klimo, Jr, Catherine McClung-Smith, Patricia Rehring, Mandeep S. Tamber, Rachana Tyagi, Catherine A. Mazzola

Congress of Neurological Surgeons Systematic Review and Evidence-Based Guideline on the Management of Patients With Myelomeningocele: Whether Persistent Ventriculomegaly Adversely Impacts Neurocognitive Development E414

Jeffrey P. Blount, Susan R. Durham, Paul Klimo Jr, Nadege Assassi, David F. Bauer, Alexandra D. Beier, Ann Marie Flannery, Catherine McClung-Smith, Dimitrios C. Nikas, Patricia Rehring, Mandeep S. Tamber, Rachana Tyagi, Catherine A. Mazzola



On the Cover

This month's cover shows an artistic rendition of the intraoperative molecular imaging of a parasagittal meningioma. Fluorescent dyes accumulate in tumor tissues and, under particular lighting conditions and with specialized equipment, produce an optical signal that reveals the presence of tumor and

cancer. Intraoperative molecular imaging (aka, fluorescent guided surgery) can significantly improve patient outcomes, and a broad understanding of the fundamental optical principles of these fluorescent tracers will support efforts to bring novel agents through scientific development and clinical trials into operative practice. Read more on p. 312. Eo Trueblood

© Children's Hospital of Philadelphia



Print Readers: Scan this QR code using your mobile device in order to access the online Table of Contents.

Congress of Neurological Surgeons Systematic Review and Evidence-Based Guideline on the Incidence of Tethered Cord Syndrome in Infants With Myelomeningocele With Prenatal Versus Postnatal Repair E417

Catherine A. Mazzola, Rachana Tyagi, Nadege Assassi, David F. Bauer, Alexandra D. Beier, Jeffrey P. Blount, Susan R. Durham, Ann Marie Flannery, Paul Klimo Jr, Catherine McClung-Smith, Dimitrios C. Nikas, Patricia Rehring, Mandeep S. Tamber

REASONS TO BELIEVE—BIostatISTICS & Methodology FOR THE Neurosurgeon

Fundamentals of Clinical Prediction Modeling for the Neurosurgeon 302
Hendrik-Jan Mijderwijk, Ewout W. Steyerberg, Hans-Jakob Steiger, Igor Fischer, Marcel A. Kamp

REVIEW

Optical Principles of Fluorescence-Guided Brain Tumor Surgery: A Practical Primer for the Neurosurgeon 312
Daniel Y. Zhang, Sunil Singhal, John Y.K. Lee

REVIEW (ONLINE ONLY)

NOW Papillary Tumor of the Pineal Region: Systematic Review and Analysis of Prognostic Factors E420
Vitor Nagai Yamaki, Davi Jorge Fontoura Solla, Renan Ribeiro Ribeiro, Saul Almeida da Silva, Manoel Jacobsen Teixeira, Eberval Gadelha Figueiredo

NOW The Emerging Role of Biomarkers in Adaptive Modulation of Clinical Brain Stimulation E430
Kimberly B. Hoang, Dennis A. Turner

COMMENTARIES (ONLINE ONLY)

Commentary: The Emerging Role of Biomarkers in Adaptive Modulation of Clinical Brain Stimulation E440
Xiaofei Zhou, Jonathan P. Miller

Commentary: The Emerging Role of Biomarkers in Adaptive Modulation of Clinical Brain Stimulation E442
Aysegul Gunduz

RESEARCH—HUMAN—CLINICAL STUDIES

Postoperative Rigid Cervical Collar Leads to Less Axial Neck Pain in the Early Stage After Open-Door Laminoplasty—A Single-Blinded Randomized Controlled Trial 325
Jason Pui Yin Cheung, Prudence Wing Hang Cheung, Karlen Law, Vishal Borse, Yuk Ming Lau, Ling Fung Mak, Aldous Cheng, Dino Samartzis, Kenneth Man Chee Cheung

Loss of BCAT1 Expression is a Sensitive Marker for IDH-Mutant Diffuse Glioma 335
Yen-Ying Chen, Hsiang-Ling Ho, Shih-Chieh Lin, Chih-Yi Hsu, Donald Ming-Tak Ho

Quality of Life Improvement Following Deep Brain Stimulation for Parkinson Disease: Development of a Prognostic Model 343
Leonardo A. Frizon, Olivia Hogue, Rebecca Achey, Darlene P. Floden, Sean Nagel, Andre G. Machado, Darlene A. Lobel

- Optimizing Outcome Prediction Scores in Patients Undergoing Endovascular Thrombectomy for Large Vessel Occlusions Using Collateral Grade on Computed Tomography Angiography** 350
Chang-Woo Ryu, Byung Moon Kim, Hyug-Gi Kim, Ji Hoe Heo, Hyo Suk Nam, Dong Joon Kim, Young Dae Kim, on behalf of collateral-based resetting of endovascular treatment for acute stroke; CoSETS investigators
- Folate Receptor Overexpression in Human and Canine Meningiomas—Immunohistochemistry and Case Report of Intraoperative Molecular Imaging** 359
John T. Pierce, Steve S. Cho, Shayoni Nag, Ryan Zeh, Jun Jeon, David Holt, Amy Durham, MacLean P. Nasrallah, Sunil Singhal, John Y.K. Lee
- Quantifying Real-World Upper-Limb Activity Via Patient-Initiated Movement After Nerve Reconstruction for Upper Brachial Plexus Injury** 369
Brandon W. Smith, Kate W.-C. Chang, Serena J. Saake, Lynda J.-S. Yang, Kevin C. Chung, Susan H. Brown
- The Impact of Intraoperative Electrocorticography on Seizure Outcome After Resection of Pediatric Brain Tumors: A Cohort Study** 375
Faith C. Robertson, Nicole J. Ullrich, Peter E. Manley, Hasan Al-Sayegh, Clement Ma, Liliana C. Goumnerova
- Predicting Inpatient Length of Stay After Brain Tumor Surgery: Developing Machine Learning Ensembles to Improve Predictive Performance** 384
Whitney E. Muhlestein, Dallin S. Akagi, Jason M. Davies, Lola B. Chambless

COMMENTARY (ONLINE ONLY)

- Commentary: Predicting Inpatient Length of Stay After Brain Tumor Surgery: Developing Machine Learning Ensembles to Improve Predictive Performance** E444
Brooks V. Udelsman, Pamela S. Jones, Yanik J. Bababekov, Bob S. Carter, David C. Chang

RESEARCH—HUMAN—CLINICAL STUDIES

- Steroid Use Associated With Increased Odds of 30-Day Mortality in Surgical Patients With Metastatic Spinal Tumors in the Setting of Disseminated Disease** 394
Jonathan G. Hobbs, Akash S. Patel, Anisse N. Chaker, Nazmul Hasan, Prateek Kumar, Edwin Ramos, Ankit I. Mehta

COMMENTARY (ONLINE ONLY)

- Commentary: Steroid Use Associated With Increased Odds of 30-Day Mortality in Surgical Patients With Metastatic Spinal Tumors in the Setting of Disseminated Disease** E446
Ilya Laufer

RESEARCH—HUMAN—CLINICAL STUDIES

- Risk Factors Associated With 90-Day Readmissions After Degenerative Lumbar Fusion: An Examination of the Michigan Spine Surgery Improvement Collaborative (MSSIC) Registry** 402
Paul Park, David R. Nerenz, Ilyas S. Aleem, Lonni R. Schultz, Michael Bazydlo, Shujie Xiao, Hesham M. Zakaria, Jason M. Schwalb, Muwaffak M. Abdulhak, Mark E. Oppenlander, Victor W. Chang

Koos Classification of Vestibular Schwannomas: A Reliability Study 409
Nicholas J. Erickson, Philip G. R. Schmalz, Bonita S. Agee, Matthew Fort, Beverly C. Walters,
Benjamin M. McGrew, Winfield S. Fisher, III

Fascicular Ratio Pilot Study: High-Resolution Neurosonography—A Possible Tool for Quantitative Assessment of Traumatic Peripheral Nerve Lesions Before and After Nerve Surgery 415
Christian Heinen, Patrick Dömer, Thomas Schmidt, Bettina Kewitz, Ulrike Janssen-Bienhold,
Thomas Kretschmer

RESEARCH—HUMAN—CLINICAL STUDIES (ONLINE ONLY)

NOW

Radiological Characteristics and Natural History of Adult *IDH*-Wildtype Astrocytomas with *TERT* Promoter Mutations E448
Cristina Izquierdo, Marc Barritault, Delphine Poncet, Stéphanie Cartalat, Bastien Joubert, Jordi Bruna,
Emmanuel Jouanneau, Jacques Guyotat, Alexandre Vasiljevic, Tanguy Fenouil, Yves Berthezène,
Jérôme Honnorat, David Meyronet, François Ducray

COMMENTARIES (ONLINE ONLY)

Commentary: Radiological Characteristics and Natural History of Adult *IDH*-Wild-Type Astrocytomas With *TERT* Promoter Mutations E457
Mostafa Fatehi, Stephen Yip

Commentary: Radiological Characteristics and Natural History of Adult *IDH*-Wild-Type Astrocytomas With *TERT* Promoter Mutations E459
Valeria Barresi, Alfredo Conti, Francesco Tomasello

RESEARCH—HUMAN—CLINICAL STUDIES (ONLINE ONLY)

NOW

Malignant Meningioma: An International Multicentre Retrospective Study E461
Charles Champeaux, Vincent Jecko, Deborah Houston, Lewis Thorne, Laurence Dunn, Naomi Fersht,
Akbar Ali Khan, Matthieu Resche-Rigon

NOW

Comparison of Motor Outcome in Patients Undergoing Awake vs General Anesthesia Surgery for Brain Tumors Located Within or Adjacent to the Motor Pathways E470
Roni Zelitzki, Akiva Korn, Eti Arial, Carmit Ben-Harosh, Zvi Ram, Rachel Grossman

NOW

Pipeline for Distal Cerebral Circulation Aneurysms E477
Elias Atallah, Hassan Saad, Nikolaos Mouchtouris, Kimon Bekelis, Jackson Walker, Nohra Chalouhi,
Stavropoula Tjournakaris, Michelle Smith, Robert H. Rosenwasser, Hekmat Zarzour, Nabeel Herial,
James Feghali, Michael Reid Gooch, Symeon Missios, Ahmad Sweid, Pascal Jabbour

NOW

Evaluating the Landscape of Clinical Research in Neurosurgery E485
Herschel W. Wilde, Jared C. Reese, Mohammed A. Azab, Michael Karsy, Jian Guan, John D. Rolston

COMMENTARY (ONLINE ONLY)

Commentary: Evaluating the Landscape of Clinical Research in Neurosurgery E494
Terence J. Quinn, David McMahon

RESEARCH—HUMAN—CLINICAL STUDIES (ONLINE ONLY)

- NOW** **Inhibition of Manual Movements at Speech Arrest Sites in the Posterior Inferior Frontal Lobe** E496
Jonathan D. Breshears, Derek G. Southwell, Edward F. Chang
- NOW** **Neurotrauma From Border Wall Jumping: 6 Years at the Mexican–American Border Wall** E502
Wyatt L. Ramey, Christina M. Walter, Jeffrey Zeller, Travis M. Dumont, G. Michael Lemole, R. John Hurlbert
- NOW** **Indicators for Nonroutine Discharge Following Cervical Deformity-Corrective Surgery: Radiographic, Surgical, and Patient-Related Factors** E509
Cole A. Bortz, Peter G. Passias, Frank Segreto, Samantha R. Horn, Virginie Lafage, Justin S. Smith, Breton Line, Gregory M. Mundis, Jr, Khaled M. Kebaish, Michael P. Kelly, Themistocles Protopsaltis, Daniel M. Sciubba, Alexandra Soroceanu, Eric O. Klineberg, Douglas C. Burton, Robert A. Hart, Frank J. Schwab, Shay Bess, Christopher I. Shaffrey, Christopher P. Ames, on behalf of the International Spine Study Group (ISSG)
- NOW** **Reoperation for Proximal Adjacent Segment Pathology in Posterior Cervical Fusion Constructs that Fuse to C2 vs C3** E520
Yuanxuan Xia, Risheng Xu, Thomas A. Kosztowski, Seba Ramhmdani, A. Karim Ahmed, Sheng-Fu L. Lo, Ali Bydon
- NOW** **Clinicopathological and Prognostic Characteristics in Extra-Axial Chordomas: An Integrative Analysis of 86 Cases and Comparison With Axial Chordomas** E527
Guo-Hua Lv, Ming-Xiang Zou, Fu-Sheng Liu, Yi Zhang, Wei Huang, An Ye, Qian-Shi Zhang, Xiao-Bin Wang, Jing Li, Yi Jiang, Xiao-Ling She
- NOW** **EQ-5D Quality-of-Life Analysis and Cost-Effectiveness After Skull Base Meningioma Resection** E543
Michael Karsy, Michael R. Jensen, Jian Guan, Vijay M. Ravindra, Erica F. Bisson, William T. Couldwell
- NOW** **The Spectrum of Trigeminal Neuralgia Without Neurovascular Compression** E553
Philippe Magown, Andrew L. Ko, Kim J. Burchiel
- NOW** **Hearing Response Following Internal Auditory Canal Decompression in Neurofibromatosis Type 2** E560
Nicolas-Xavier Bonne, Michaël Risoud, Michael Hoa, Pierre-Emmanuel Lemesre, Rabih Aboukais, Emilie Le Rhun, Frédérique Dubrulle, Marc Baroncini, Jean-Paul Lejeune, Christophe Vincent

RESEARCH—ANIMAL

- Intraneural IFG-1 in Cryopreserved Nerve Isografts Increase Neural Regeneration and Functional Recovery in the Rat Sciatic Nerve** 423
Sara Alicia González Porto, Nieves Domenech, Francisco J. Blanco, Alberto Centeno Cortés, Casto Rivadulla Fernández, Ángel Álvarez Jorge, Jacinto Sánchez Ibáñez, Esther Rendal Vázquez

SPECIAL ARTICLE

- Greening the Operating Room: Results of a Scalable Initiative to Reduce Waste and Recover Supply Costs** 432
Maya A. Babu, Angela K. Dalenberg, Glen Goodsell, Amanda B. Holloway, Marcia M. Belau, Michael J. Link

COMMENTARY (ONLINE ONLY)

- Commentary: Greening the Operating Room: Results of a Scalable Initiative to Reduce Waste and Recover Supply Costs** E568
Deborah L. Benzil

CASE REPORT

- Interstitial Stereotactic Laser Anterior Corpus Callosotomy: A Report of 2 Cases with Operative Technique and Effectiveness** 438
James X. Tao, Naoum P. Issa, Shasha Wu, Sandra Rose, John Collins, Peter C. Warneke

BOOK REVIEWS (ONLINE ONLY)

- Book Review: Hypofractionated and Stereotactic Radiation Therapy: A Practical Guide** E575
Michael Chan

- Book Review: AOSpine Masters Series, Volume 10: Spinal Infections** E577
Matthew F. Gary

- Book Review: Cerebrospinal Fluid Disorders: Lifelong Implications** E579
Petra M. Klinge

- Book Review: Neurosurgery Fundamentals** E581
Kumar Vasudevan

- Book Review: Surgical Anatomy of the Lumbar Plexus** E584
Harley Brito da Silva, Rajiv Midha

- Book Review: RadCases Plus Q&A: Neuro Imaging, Second Edition** E586
John Joseph O'Keefe

- Book Review: Intracerebral Hemorrhage Therapeutics: Concepts and Customs** E588
Gustavo Pradilla

- Book Review: Surgical Neuro-Oncology** E590
Connor J. Liu, Gavin P. Dunn

CORRESPONDENCE (ONLINE ONLY)

- Commentary: The Florida Youth Concussion Law: A Survey-Based Observational Study of Physician Practices and Their Legislative Awareness** E592
John W. Stelzer, Nathan E. Esplin, Firas Sbeih, Bertha A. Ben Khallouq, Melvin Field

- Letter: Congress of Neurological Surgeons Female International Think Tank Report: Much Progress, Still Work to Be Done** E599
Jennifer A. Sweet, Vanessa Milanese Holanda, Ganesh Rao, Steven N. Kalkanis, Ashwini D. Sharan, Deborah L. Benzil

- Letter: When Less is More: Dexamethasone Dosing for Brain Tumors** E607
 Mary Jane Lim-Fat, Wenya Linda Bi, Janet Lo, Eudocia Quant Lee, Manmeet S. Ahluwalia, Tracy T. Batchelor, Susan M. Chang, E. Antonio Chiocca, Ugonma Chukwueke, Timothy F. Cloughesy, Howard Colman, Lisa M. Deangelis, Evanthia Galanis, Mark R. Gilbert, John F. De Groot, Andrew B. Lassman, Linda M. Liau, Warren Mason, J. Ricardo McFaline-Figueroa, Minesh P. Mehta, Ingo K. Mellingerhoff, L. Burt Nabors, Lakshmi Nayak, David A. Reardon, Patrick Y. Wen
- Letter: Older Patients Have Better Pain Outcomes Following Microvascular Decompression for Trigeminal Neuralgia** E609
 Fariborz Ghaffarpasand, Maryam Dehghankhalili
- In Reply: Older Patients Have Better Pain Outcomes Following Microvascular Decompression for Trigeminal Neuralgia** E610
 Sarah K. Bick, David Huie, Gabriel Sneh, Emad N. Eskandar
- Letter: A Reliable Grading System for Prediction of Chronic Subdural Hematoma Recurrence Requiring Reoperation After Initial Burr-Hole Surgery** E612
 Woon-Man Kung, I-Shiang Tzeng, Muh-Shi Lin
- In Reply: A Reliable Grading System for Prediction of Chronic Subdural Hematoma Recurrence Requiring Reoperation After Initial Burr-Hole Surgery** E614
 Milo Stanišić, Are Hugo Pripp
- Letter: Congress of Neurological Surgeons Systematic Review and Evidence-Based Practice Guidelines on the Role of Surgery in the Management of Adults With Metastatic Brain Tumors** E616
 Fabiana Gregucci, Alba Fiorentino
- In Reply: Congress of Neurological Surgeons Systematic Review and Evidence-Based Practice Guidelines on the Role of Surgery in the Management of Adults With Metastatic Brain Tumors** E618
 Christopher Alvarez-Breckenridge, Brian V. Nahed
- Letter: Laser Ablation of Abnormal Neurological Tissue using Robotic Neuroblate System (LAANTERN): Procedural Safety and Hospitalization** E619
 Ivo S. Muskens, Marike L.D. Broekman, Geert J. Lycklama à Nijeholt, Wouter A. Moojen,
- Letter: The Indusium Griseum: Anatomic Study with Potential Application to Callosotomy** E621
 Teresa Lorenzi, Andrea Sagrati, Eva Montanari, Adriano Tagliabracci, Paolo Barbaresi, Mara Fabri, Manrico Morroni
- In Reply: The Indusium Griseum: Anatomic Study with Potential Application to Callosotomy** E623
 Eyas M. Hattab, R. Shane Tubbs, Aaron A. Cohen-Gadol
- Letter: White Blood Cell Count Improves Prediction of Delayed Cerebral Ischemia Following Aneurysmal Subarachnoid Hemorrhage** E624
 Lei Zhao
- Letter: Long-Term Effect of Decompressive Craniectomy on Intracranial Pressure and Possible Implications for Intracranial Fluid Movements** E625
 Anatoli Dimitrov, Luis Rafael Moscote-Salazar, Amit Agrawal

In Reply: Long-Term Effect of Decompressive Craniectomy on Intracranial Pressure and Possible Implications for Intracranial Fluid Movements
 Alexander Lilja-Cyron, Marianne Juhler

DEPARTMENTS

- Table of Contents by Topic
- Calendar of Events
- Next Month in *Neurosurgery*

- N14
- N18
- N20

EDUCATION

- 3257 Book Review: *Neurosurgical Biomechanics* by James R. Brackley, Jeffrey A. Stohr, and Robert G. Frazier
- 3258 Book Review: *Neurosurgical Biomechanics* by James R. Brackley, Jeffrey A. Stohr, and Robert G. Frazier
- 3259 Book Review: *Neurosurgical Biomechanics* by James R. Brackley, Jeffrey A. Stohr, and Robert G. Frazier
- 3260 Book Review: *Neurosurgical Biomechanics* by James R. Brackley, Jeffrey A. Stohr, and Robert G. Frazier
- 3261 Book Review: *Neurosurgical Biomechanics* by James R. Brackley, Jeffrey A. Stohr, and Robert G. Frazier
- 3262 Book Review: *Neurosurgical Biomechanics* by James R. Brackley, Jeffrey A. Stohr, and Robert G. Frazier
- 3263 Book Review: *Neurosurgical Biomechanics* by James R. Brackley, Jeffrey A. Stohr, and Robert G. Frazier
- 3264 Book Review: *Neurosurgical Biomechanics* by James R. Brackley, Jeffrey A. Stohr, and Robert G. Frazier
- 3265 Book Review: *Neurosurgical Biomechanics* by James R. Brackley, Jeffrey A. Stohr, and Robert G. Frazier

ENDOVASCULAR

- 3266 Outcomes of Endovascular Treatment for Large Vessel Occlusion: A Systematic Review and Meta-Analysis
- 3267 Outcomes of Endovascular Treatment for Large Vessel Occlusion: A Systematic Review and Meta-Analysis
- 3268 Outcomes of Endovascular Treatment for Large Vessel Occlusion: A Systematic Review and Meta-Analysis
- 3269 Outcomes of Endovascular Treatment for Large Vessel Occlusion: A Systematic Review and Meta-Analysis

EPILEPSY

- 3270 Long-Term Effects of Antiepileptic Drugs on Cognitive Function: A Systematic Review and Meta-Analysis
- 3271 Long-Term Effects of Antiepileptic Drugs on Cognitive Function: A Systematic Review and Meta-Analysis
- 3272 Long-Term Effects of Antiepileptic Drugs on Cognitive Function: A Systematic Review and Meta-Analysis
- 3273 Long-Term Effects of Antiepileptic Drugs on Cognitive Function: A Systematic Review and Meta-Analysis
- 3274 Long-Term Effects of Antiepileptic Drugs on Cognitive Function: A Systematic Review and Meta-Analysis
- 3275 Long-Term Effects of Antiepileptic Drugs on Cognitive Function: A Systematic Review and Meta-Analysis
- 3276 Long-Term Effects of Antiepileptic Drugs on Cognitive Function: A Systematic Review and Meta-Analysis
- 3277 Long-Term Effects of Antiepileptic Drugs on Cognitive Function: A Systematic Review and Meta-Analysis
- 3278 Long-Term Effects of Antiepileptic Drugs on Cognitive Function: A Systematic Review and Meta-Analysis
- 3279 Long-Term Effects of Antiepileptic Drugs on Cognitive Function: A Systematic Review and Meta-Analysis

ETHICS

- 3280 Ethical Considerations in the Use of Artificial Intelligence in Neurosurgery
- 3281 Ethical Considerations in the Use of Artificial Intelligence in Neurosurgery
- 3282 Ethical Considerations in the Use of Artificial Intelligence in Neurosurgery
- 3283 Ethical Considerations in the Use of Artificial Intelligence in Neurosurgery
- 3284 Ethical Considerations in the Use of Artificial Intelligence in Neurosurgery

EVIDENCE-BASED MEDICINE

- 3285 Evidence-Based Medicine: The Role of Systematic Reviews in Neurosurgery
- 3286 Evidence-Based Medicine: The Role of Systematic Reviews in Neurosurgery

CLINICAL TRIALS

- 3287 Efficacy and Safety of a New Endovascular Device for the Treatment of Large Vessel Occlusion: A Randomized Controlled Trial
- 3288 Efficacy and Safety of a New Endovascular Device for the Treatment of Large Vessel Occlusion: A Randomized Controlled Trial
- 3289 Efficacy and Safety of a New Endovascular Device for the Treatment of Large Vessel Occlusion: A Randomized Controlled Trial
- 3290 Efficacy and Safety of a New Endovascular Device for the Treatment of Large Vessel Occlusion: A Randomized Controlled Trial
- 3291 Efficacy and Safety of a New Endovascular Device for the Treatment of Large Vessel Occlusion: A Randomized Controlled Trial
- 3292 Efficacy and Safety of a New Endovascular Device for the Treatment of Large Vessel Occlusion: A Randomized Controlled Trial
- 3293 Efficacy and Safety of a New Endovascular Device for the Treatment of Large Vessel Occlusion: A Randomized Controlled Trial
- 3294 Efficacy and Safety of a New Endovascular Device for the Treatment of Large Vessel Occlusion: A Randomized Controlled Trial
- 3295 Efficacy and Safety of a New Endovascular Device for the Treatment of Large Vessel Occlusion: A Randomized Controlled Trial
- 3296 Efficacy and Safety of a New Endovascular Device for the Treatment of Large Vessel Occlusion: A Randomized Controlled Trial
- 3297 Efficacy and Safety of a New Endovascular Device for the Treatment of Large Vessel Occlusion: A Randomized Controlled Trial
- 3298 Efficacy and Safety of a New Endovascular Device for the Treatment of Large Vessel Occlusion: A Randomized Controlled Trial
- 3299 Efficacy and Safety of a New Endovascular Device for the Treatment of Large Vessel Occlusion: A Randomized Controlled Trial
- 3300 Efficacy and Safety of a New Endovascular Device for the Treatment of Large Vessel Occlusion: A Randomized Controlled Trial

CRANIAL BASE

- 3301 Craniotomy for the Treatment of Intradural Meningeal Hematomas: A Systematic Review and Meta-Analysis
- 3302 Craniotomy for the Treatment of Intradural Meningeal Hematomas: A Systematic Review and Meta-Analysis
- 3303 Craniotomy for the Treatment of Intradural Meningeal Hematomas: A Systematic Review and Meta-Analysis
- 3304 Craniotomy for the Treatment of Intradural Meningeal Hematomas: A Systematic Review and Meta-Analysis
- 3305 Craniotomy for the Treatment of Intradural Meningeal Hematomas: A Systematic Review and Meta-Analysis

ORBITAL

- 3306 Orbital Decompression for the Treatment of Thyroid-Associated Orbitopathy: A Systematic Review and Meta-Analysis
- 3307 Orbital Decompression for the Treatment of Thyroid-Associated Orbitopathy: A Systematic Review and Meta-Analysis

TRUNCAL

- 3308 Truncal Decompression for the Treatment of Spinal Cord Compression: A Systematic Review and Meta-Analysis
- 3309 Truncal Decompression for the Treatment of Spinal Cord Compression: A Systematic Review and Meta-Analysis

NERVOUS SYSTEM

- 3310 Effects of Intrathecal Bupivacaine on Pain and Motor Block: A Systematic Review and Meta-Analysis
- 3311 Effects of Intrathecal Bupivacaine on Pain and Motor Block: A Systematic Review and Meta-Analysis
- 3312 Effects of Intrathecal Bupivacaine on Pain and Motor Block: A Systematic Review and Meta-Analysis
- 3313 Effects of Intrathecal Bupivacaine on Pain and Motor Block: A Systematic Review and Meta-Analysis